

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF UTAH, CENTRAL DIVISION**

HMI LENDERS, L.C.,

Plaintiff,

v.

SALLY JEWELL, et al.,

Defendants.

**MEMORANDUM DECISION AND
ORDER**

Case No. 2:11-CV-00504

Judge Robert J. Shelby

Plaintiff, HMI Lenders, L.C. petitions this court for review of final agency action under the Administrative Procedure Act. 5 U.S.C. § 701, *et seq.* HMI seeks reversal of a decision by the Department of Interior’s Board of Land Appeals, which rendered seven HMI mining claims null and void for lack of a valuable mineral discovery. *United States v. HMI Lenders, L.C.*, 179 IBLA 117 (IBLA 2010).

After a full review of the extensive administrative record, the court concludes that the IBLA decision is in accordance with law and supported by substantial evidence. HMI’s petition is denied.

BACKGROUND

A. Legal Framework

Under the General Mining Law of 1872, claimants may prospect for valuable minerals on federal public lands. *Andrus v. Shell Oil Co.*, 446 U.S. 657, 658 (1980). Where claimants “discover ‘valuable mineral deposits,’” and satisfy other minor requirements, “they may obtain title to the land on which such deposits are located.” *Id.* The provisions of the General Mining Law relevant to the present case are administered by the Secretary of the Interior. *See*

Cameron v. United States, 252 U.S. 450, 459-60 (1920).

Since 1894, the Secretary has applied a “prudent man” test to assess the validity of mining claims. *United States v. Coleman*, 390 U.S. 599, 602 (1968); *see Castle v. Womble*, 19 L.D. 455, 457 (1894) (applying the test for the first time).¹ Under this test, a mineral deposit discovery is valuable if it is “of such a character that ‘a person of ordinary prudence would be justified in the further expenditure of his labor and means, with a reasonable prospect of success, in developing a valuable mine.’” *Coleman*, 390 U.S. at 602 (quoting *Castle*, 19 L.D. at 457). Where minerals are not of a quantity and quality to be worth the cost to extract them, the investment is not economically valuable, and a prospector fails to make out a claim. *Id.*

In some cases, like the present, claims lie on federal public lands that later become closed by law to new mineral exploration. Following such a withdrawal of public land, the United States prepares a mineral examination report for any existing claim to determine “whether the mining claim was valid before the withdrawal, and whether it remains valid.” 43 C.F.R. § 3809.100(a). Where a mineral examination indicates a claim lacks a valuable discovery, the United States may contest its validity in administrative proceedings before the Department of the Interior. *Cameron*, 252 U.S. at 459-61; 43 C.F.R. § 4.451-1. The United States may make this challenge at any time prior to issuing a patent and transferring title. *Cameron*, 252 U.S. at 459-61.

The contest proceeding involves a formal trial-like hearing before an administrative law judge, providing the parties an opportunity to introduce evidence and examine expert witnesses. 43 C.F.R. §§ 4.452-4 to 4.452-6. For a claim located on land withdrawn to mineral entry to remain valid, the discovery must have existed at the time of withdrawal, *e.g.*, *Cameron v. United*

¹ Discovery of valuable minerals is not defined by statute. *Ernest K. Lehmann & Assocs. of Mont., Inc. v. Salazar*, 602 F. Supp. 2d 146, 150 (D.D.C. 2009) *aff’d*, 377 F. App’x 28 (D.C. Cir. 2010).

States, 252 U.S. 450, 456 (1920); see *Ernest K. Lehmann & Associates of Montana, Inc. v. Salazar*, 602 F. Supp. 2d 146, 150 (D.D.C. 2009) *aff'd*, 377 F. App'x 28 (D.C. Cir. 2010); *United States v. Boucher*, 147 IBLA 236, 242 (1999), and must continue to exist at the time of the hearing to determine the validity of the mining claim. *E.g.*, *Lara v. Sec'y of Interior of U.S.*, 820 F.2d 1535, 1542 (9th Cir. 1987); *Boucher*, 147 IBLA at 242.

In its case in chief, the government first must establish a *prima facie* case that the contested claims are invalid. *Hallenbeck v. Kleppe*, 590 F.2d 852, 856 (10th Cir. 1979). The government makes such a case “when the mineral examiner testifies he has examined the exposed workings and found no mineralization sufficient to support the finding of a discovery.” *Id.* at 859. The examiner can assess the claim based on its present state, without any requirement “to perform discovery work for the claimant, or to explore or sample beyond those areas which have been exposed by the claimant, as the examiner simply verifies whether a discovery has been made.” *Id.* If the United States makes this preliminary showing, then the claimant bears the burden of proving a discovery by a preponderance of the evidence. *Id.* at 856.

B. Factual Background

The present dispute involves seven unpatented mining claims, designated 4-8 and 34-35, located within the Mojave National Preserve in San Bernardino County, California.² Dkt. 15 (Administrative Record (R.)), at 1435. The lands are administered by the National Park Service, R. at 1420, and were withdrawn from mineral exploration when the Preserve was established in 1994. California Desert Protection Act of 1994, Pub. L. No. 103-433, 108 Stat. 4471 (1994); 16 U.S.C. § 410aaa-47 (2012) (withdrawing federal lands within the Mojave National Preserve

² Though the claims are located in California, both parties have stipulated to venue in this court because the administrative hearing for the contest proceedings took place in Salt Lake City, Utah. See Dkt. 1, p. 1. HMI is a domiciliary of Utah. *Id.*

“from location, entry, and patent under the United States mining laws,” “subject to valid existing rights”); *see* R. at 122, 1420.

The claims at issue here, among others not at issue in this case, are in close proximity to three previously patented claims on the now-defunct Telegraph Mine, designated Telegraph Extension, Telegraph South, and Telegraph. R. at 1445. The history of exploration of both these patented claims and the unpatented claims at issue is integral to HMI’s review petition.

Mining in the geographic area of these claims has typically focused on gold and silver within a “massive to banded, gold-quartz vein called the Telegraph vein.” R. at 125 (internal quotations omitted). Prospecting for valuable minerals began as early as the 1890s, and in 1930 gold was discovered in the vicinity of the contested claims. R. at 1443, 1445. The resulting Telegraph Mine was viable for almost two decades, producing 2,559 ounces of gold, 5,423 ounces of silver, and 500 pounds of copper between 1932 and 1948.³ R. at 1445. The Mine’s productive years eventually came to a close, and most equipment was removed by 1947. *Id.*

Government funding in the postwar years spurred greater mining exploration in search of certain strategic minerals, led by the United States Geological Survey (USGS). In 1968, in part through funding from the Office of Minerals Exploration within the USGS, interest renewed in the Telegraph Mine. *See id.* at 1445, 2677–78. Exploration in the area resumed for the next two decades.

Metallurgist and consulting mining geologist Tomo Ito directed the early exploration work, including core drilling on the Telegraph, Telegraph Extension, and South Telegraph claims. *Id.* at 2677–78, 1933–60. Between the South Telegraph and Telegraph claims Mr. Ito drilled 15 holes, ostensibly revealing a vein with an estimated width of four feet, and extending

³ HMI’s arguments in favor of a valuable discovery on the claims focus exclusively upon gold. As such, data concerning silver or any other valuable mineral is not here included.

to a depth of at least 200 feet. *Id.* at 127–28, 1945–46. Using seven samples collected near the end of his exploration, Mr. Ito calculated the vein could yield an average of 0.51 ounces of gold per ton extracted with a total of 72,000 tons available for mining. *Id.* at 128–29; 1948–49.

Exploration continued after HMI's predecessor in interest, Cascade Energy and Materials Corporation (CEMC), acquired the Telegraph Mine in 1974. *HMI Lenders*, 179 IBLA 117, 119 n.5; R. at 129, 2681. At CEMC's request, consulting geologist Joseph Owens reviewed available information, including Mr. Ito's earlier study. R. at 129, 1965–81. After surveying the mining claims and collecting additional samples, Mr. Owens completed his report for CEMC in 1980. *Id.* He estimated the ore grade to be 0.425 ounces per ton, extending to a depth of at least 450 feet. *Id.* at 129, 1977–80. Mr. Owens stated that Mr. Ito's report appeared "correct," but Mr. Owens projected a much-greater tonnage, estimating that the Telegraph vein had an ore zone of 540,000 tons. *Id.*

Following up on Mr. Owens' promising report, CEMC carried out further exploration of the area by drilling a 450-foot hole on contested Claim 4 (*id.* at 130, 1686–89, 2038, 2683–84), conducting surface sampling on Claims 4, 5, 7, and 8 (*id.* at 130–31, 1164–67), and drilling two holes on Claim 6 (*id.* at 1261–62).⁴ The 450-foot hole in Claim 4 contained its highest concentration of mineralization between 367 and 371 feet, showing 0.046 ounces of gold per ton. *Id.* at 130, 1543, 1681. At the bottom of the hole, 0.17 ounces of gold per ton was discovered, though the depth at which this material was originally located is unknown. *Id.* at 130, 1320–25, 2422. Surface sampling showed minimal mineralization. Of the two holes drilled on Claim 6, only one was sampled for gold, with its highest ore value at 0.11 ounces of gold per ton at a

⁴ Information from one of the two holes "was never logged or sampled due to drilling difficulties." See R. at 151.

depth of 54 feet. The results did not show levels of mineralization consistent with Mr. Ito's or Mr. Owens' projections.

In addition to this exploration, in 1981 CEMC hired Mead LeRoy Jensen, geophysicist and consulting geologist, to perform a "brief examination" of the Telegraph mine and nearby areas, to study the earlier geological reports, and to collect samples in order to verify earlier results. *Id.* at 130; *see id.* at 1686–90. Mr. Jensen's work involved collection of 13 channel cut or chip samples, and 6 samples collected with a bulldozer cutting across the shear zone veins. *Id.* at 130-31. Mr. Jensen's samples showed an average gold value of 0.173 ounces per ton, and for those taken from within the vein on the patented claims, an average of .22 ounces of gold per ton. *Id.* at 131, 1690–93. This was approximately half the value calculated by Mr. Ito, and Mr. Jensen concluded that selective mining was necessary given the contrasting results of his and Mr. Ito's sampling. *Id.*; *see id.* at 1691-93.

In 1982, new patents issued for the Telegraph, Telegraph Extension, and South Telegraph claims. *R.* at 2650. In August 1983, location notices were filed for Claims 4-8, and 34-35, among others not at issue in this case. *Id.* at 2652.

Between 1984 and 1988, in coordination with CEMC, Peter Lange conducted a study of the geology of the Telegraph Mine for his Master's thesis at Colorado State University. *Id.* at 132, 883, 1722. Mr. Lange's study "was undertaken to gain a comprehensive understanding of the geology, age, precious-metals distributions and physico-chemical characteristics of the Telegraph Mine tectono-hydrothermal breccia system." *Id.* at 1738. In keeping with this focus, Mr. Lange did not calculate the average grade or tonnage available for mining on the unpatented claims, or the economic viability of the unpatented claims. *See id.* at 132, 974–75. Rather, Mr. Lange characterized his work as an "exploration tool." *Id.* at 957, 960. Mr. Lange created maps

of the area, collected and analyzed approximately 500 samples, and examined 184 of the samples using geochemical analysis. *Id.* at 132, 899, 914–15, 959.

In the resulting thesis, Mr. Lange argued that mineralization in the area occurred in six stages, with the greatest proportion of mineralized material forming during the third stage. *Id.* at 133, 1809. He observed that material from that stage within the strike of the vein displayed “considerable variation” in its volume depending upon the location within the vein. *Id.* In the conclusion of his thesis, Mr. Lange stated that “[a]s with many epithermal precious-metal deposits, Telegraph mineralization is spotty and of erratic grade. Every aspect, therefore, of the deposit which has contributed to the concentration of metal must be considered to understand and economically exploit the deposit.” *Id.* at 1880 (emphasis in original). Mr. Lange recommended additional exploration. *Id.* at 133, 1880–81. CEMC, for its part, conducted no further mining before the land was withdrawn from mineral exploration. *Id.* at 134; *see id.* at 1447. Notably, however, a “potential investor” in the mine drilled a solitary hole on unpatented Claim 5, without authorization, sometime between 2002 and 2006. R. at 133, 948–49, 997–98, 1249–52, 2040.

In 1994, the land encompassing the Telegraph mine and unpatented Claims 4–8, 19–20, 32–35, and 80⁵ were withdrawn from mineral exploration as part of the Mojave National Preserve. In 1999, the National Park Service commissioned American Geological Services, Inc. (AGS) to conduct a mineral examination to ascertain the validity of the unpatented claims. *Id.* at 135–36, 1420; *see id.* at 1492.

The Park Service sent notification of the requested examination to David Weston, the principal agent for CEMC. *Id.* at 135–36, 1420–21. The Park Service asked Mr. Weston to

⁵ Only Claims 4–8 and 34–35 are at issue in the present case, as Plaintiff voluntarily relinquished claims 19–20, 32, 33, and 80 during the administrative proceedings. *See id.* at 122, 975, 1144–46, 1317–19.

provide all relevant reserve and resource information, drilling locations, geologic and geophysical data, and sample and assay data to help inform the examination. *Id.* at 136, 1420–21. Mr. Weston initially sent two reports with information on the Telegraph Mine as well as excerpts from testimony in litigation involving CEMC and its investors. *Id.* After receiving the reports, the Park Service requested additional information, including maps of the areas identifying the discovery points and mineralized areas on the unpatented claims, which Mr. Weston did not subsequently provide. *Id.* at 136, 1495–97.

AGS conducted its initial examination March 11 to 13, 2000. *Id.* at 136, 1422. Three AGS geologists conducted the examination in the presence of three Park Service representatives. *Id.* at 136, 1422; *see id.* at 1014–15. CEMC did not send a representative to be present during the examination, and, given Mr. Weston’s failure to respond, the examiners did not have detailed maps of the unpatented claims or information about the location of mineralization upon those claims. *Id.* at 136, 1015–16. Given the examiner’s lack of any affirmative duty to conduct exploration beyond the work already conducted and the minerals already exposed, the examiners were required only to use their best professional judgment concerning the validity of the claims as they found them. *See Hallenbeck v. Kleppe*, 590 F.2d 852, 856 (10th Cir. 1979).

AGS geologists located and mapped the unpatented claims to identify veins, surface outcroppings, and prospect pits for mineralization to obtain samples necessary for the examination. *R.* at 136, 1015–19. During a number of visits over approximately 18 months, AGS collected 33 samples from the unpatented claims, including unpatented claims not at issue in this case. *Id.* at 136, 1453–76. These samples were analyzed by fire assay, which showed that 23 of the 33 samples contained gold at or below 0.002 ounces per ton—the detection limit for the testing method. *Id.* at 136, 1481.

In the examiner's opinion, results from Claims 4-8 did not demonstrate sufficient surface mineralization to support a valuable discovery. *Id.* at 136, 1025. In the absence of any contrary sample data from CEMC showing mineralization on Claims 4-8, the examiner, relying on the physical evidence available, found insufficient evidence to support subsurface mineralization. *Id.* at 136-37, 1028-32.

In contrast, the examiner found Claims 34 and 35 warranted further examination to determine the economic viability of a mining operation on the claims. But after full evaluation of the available tonnage and the costs of both surface and underground mining, the examiner concluded that the expense of extracting the minerals would exceed the potential revenue. *Id.* at 137-38, 1024, 1486-87.

AGS prepared a report dated April 3, 2003 detailing its methodology and findings from its examination of the unpatented claims. R. at 1412, *et seq.* Mark Arnold, the examiner, was the primary author. *Id.* at 140. After a technical review by two additional mineral examiners, one from the Bureau of Land Management and one from the National Park Service, the Superintendent of the Mojave National Preserve signed the examination report on June 30, 2003. R. at 1412.

Relying on the report, the United States filed a Complaint on March 8, 2004 contesting the validity of CEMC's unpatented claims. *Id.* at 678-81. The United States alleged that no discovery had been made on the unpatented claims because valuable minerals were not found there in sufficient quantity or quality, and asked the Secretary of the Interior to find the claims null and void. *Id.* at 679. CEMC answered the Complaint on March 30, 2004, asserting a valuable discovery within the limits of the unpatented claims on the basis of a "down dip extension of the mineralized vein" extending from the patented claims. *Id.* at 673-75. The

parties engaged in four years of settlement negotiations, during which time HMI Lenders, L.C. acquired the rights to CEMC's claims. *Id.* at 616, 627, 636, 648, 844-51.

A hearing was held January 8 to 11, 2008 in Salt Lake City, Utah before Administrative Law Judge Harvey Sweitzer. *HMI Lenders*, 179 IBLA at 123. At the hearing, the United States presented testimony from Mr. Arnold, lead author of the AGS examination report, and from Ted Weasma of the National Park Service, both of whom had participated in the mineral examination of the unpatented claims. *Id.*; *see* R. at 136, 871, 1014-15, 1422. The witnesses for the United States presented the evidence developed during the mineral examination and expressed their opinions that the unpatented claims failed to satisfy the standard for a valuable discovery. R. at 980-1036.

In its presentation, HMI called four witnesses: Mr. Lange, to testify regarding the mineralization on the unpatented claims, *id.* at 877; David J. Ryzak, to testify on the economic viability of mining the unpatented claims, *id.* at 1041; Donna Harbuck, to testify concerning the testing procedure for the samples collected by HMI over the years, *id.* at 1082; and Mr. Weston, to testify about the history of the Telegraph mines, exploration of the claims, and the mineralization in the area. *Id.* at 1096.

On March 23, 2009, after the conclusion of the hearing and following post-hearing briefing, the ALJ issued a 55-page opinion in which he found that HMI had failed to prove a discovery on any of the contested claims, rendering Claims 4-8 and 34-35 null and void. R. at 121-177.

In evaluating the evidence, the ALJ determined that the United States had satisfied its burden to establish a *prima facie* case that the contested claims were invalid. The ALJ then concluded that HMI failed to provide sufficient data from the unpatented claims to prove by a

preponderance of the evidence that mineralization occurred in sufficient quantity and quality on the unpatented claims to constitute a discovery. *Id.* at 147. Highly relevant to review by this court, the ALJ found that Mr. Lange’s testimony and depth modeling regarding mineralization in the region was an insufficient basis to permit application of “geological inference” to prove mineralization on the unpatented claims based on the three patented claims.⁶ *See id.* at 159–60. The ALJ concluded that “none of the disputed claims can be profitably mined absent the favorable geological inferences advocated by” HMI because there was no demonstration of an extent or quality of ore beneath Claims 4-8 sufficient to demonstrate economic viability. *Id.* at 169.

On Claims 34 and 35, the ALJ found that HMI’s proposed application of Mr. Lange’s model did not allow for “any reasonable geological inferences,” and that Mr. Weston’s proposed model, introduced in testimony, was at best “hopeful speculation.” *R.* at 173-74. The ALJ thus limited his consideration of economic viability to the demonstrated mineralization. *Id.* at 174 (“[t]he only remaining issue, then, is whether the surface mineralization along the boundary of claim numbers 34 and 35 can be profitably mined as part of the open pit operation planned for the patented claims.”). Even when applying an “area-wide” value based on minimal sampling, and favorable to HMI, the ALJ concluded that the estimated costs of operating the mine would exceed the revenue potential for Claims 34 and 35. *Id.* at 174-75.

HMI appealed the ALJ’s decision to the Interior Board of Land Appeals (IBLA). *United States v. HMI Lenders, L.C.*, 179 IBLA 117, 118 (2010). The IBLA affirmed the ruling, finding that the ALJ had carefully weighed the evidence available on the record. The IBLA determined that the ALJ made no error in finding that geologic inference could not be used to establish the

⁶ “Geologic inference” is discussed in greater detail below.

existence of a valuable discovery, and that no discovery could be shown without such an inference. *Id.*

The IBLA decision was “final agency action” for purposes of review under the APA. *Freeman v. United States Dep’t of the Interior*, 37 F. Supp. 3d 313, 322 (D.D.C. 2014). Having exhausted all administrative remedies, HMI now seeks review by this court.

ANALYSIS

A. Standard of Review

The scope of this court’s review of agency action is governed by Section 706 of the APA. *See IMC Kalium Carlsbad, Inc. v. Interior Bd. of Land Appeals*, 206 F.3d 1003, 1009 (10th Cir. 2000). Where a petitioner appeals from an IBLA decision, a district court sits in an appellate capacity, and must “engage in a substantive review of the record to determine if the agency considered relevant factors or articulated a reasoned basis for its conclusions.” *Olenhouse v. Community Credit Corp.*, 42 F. 3d 1560, 1580 (10th Cir. 1994).

Because the IBLA reviews the decision of the BLM ALJ *de novo*, this court is instructed to afford deference to the decision of the IBLA, not the BLM. *IMC Kalium Carlsbad, Inc. v. Interior Bd. of Land Appeals*, 206 F.3d 1003, 1009-10 (10th Cir. 2000). Though the district court reviews legal determinations *de novo*, *Thunderbird Propellers, Inc. v. FAA*, 191 F.3d 1290, 1295 (10th Cir. 1999), it also accords appropriate deference to the Department’s interpretation of a statute it administers. *See generally Chevron U.S.A., Inc. v. Natural Resources Defense Council*, 467 U.S. 837, 842-43 (1984). This is especially appropriate for decisions that involve “technical or scientific matters within the agency’s area of expertise.” *Utah Env’tl. Cong. v. Dale Bosworth*, 443 F.3d 732, 739 (10th Cir. 2006).

The court “will set aside an IBLA decision only if it is arbitrary, capricious, otherwise not in accordance with law, or not supported by substantial evidence.” *IMC Kalium*, 206 F.3d at 1009. Review focuses on “whether the agency considered all relevant factors[,] whether there has been a clear error of judgment,” and whether the agency action has a “reasoned basis” and is “supported by the facts in the record.” *Pennaco Energy, Inc. v. U.S. Dep’t of Interior*, 377 F.3d 1147, 1156 (10th Cir. 2004) (internal quotation marks omitted). Where “the arbitrary or capricious standard is performing that function of assuring factual support,” the questions of whether a decision is arbitrary and capricious and whether it lacks substantial evidence are essentially identical. *Pennaco Energy, Inc. v. U.S. Dep’t of Interior*, 377 F.3d 1147, 1156, n.6 (10th Cir. 2004).

Substantial evidence is “such relevant evidence a reasonable person would deem adequate to support the ultimate conclusion.” *Hoyl v. Babbitt*, 129 F.3d 1377, 1383 (10th Cir. 1997) (quoting *Grubb v. Federal Deposit Ins. Corp.*, 34 F.3d 956, 961 (10th Cir.1994)). This equates to evidence sufficient to refuse to direct a verdict, if the question were put to a jury. *Forest Guardians v. U.S. Forest Serv.*, 495 F.3d 1162, 1170 (10th Cir. 2007); *Olenhouse v. Commodity Credit Corp.*, 42 F.3d 1560, 1575 (10th Cir. 1994). The court will not set aside an agency’s decision simply because it might have reached a different conclusion than the agency. *Hoyl v. Babbitt*, 129 F.3d 1377, 1383 (10th Cir. 1997).

Here, HMI raises three grounds for appeal: (1) that the ALJ acted as a “silent witness” in favor of the United States; (2) that the ALJ’s decision was not based on substantial evidence; and (3) that the rejection of a geologic inference to prove a valuable discovery was contrary to law.

(Dkt. 1, pp. 23-27.) The third ground is the most essential because absent the benefit of geologic inferences HMI cannot on the facts in this case demonstrate a valuable discovery.⁷

For the reasons that follow, the court concludes that the IBLA's determination that HMI's mining claims were null and void for lack of a valuable discovery is supported by substantial evidence, and is neither arbitrary nor capricious. Based on the court's review of the "whole record" including "those parts cited by [the parties]," 5 U.S.C. § 706, the court affirms the agency's conclusion that HMI failed to satisfy the standards for proving a discovery on the unpatented claims by a preponderance of the evidence.

B. Geologic Inference

Under the prudent man test, the question before the ALJ was whether "ore of the quality found, or of any mineable quality, exist[ed] in sufficient quantity to justify a prudent man in the expenditure of his means with a reasonable anticipation of developing a valuable mine" on the unpatented claims at issue. *United States v. Miller*, 165 IBLA 342, 356 (2005) (quoting *United States v. Larsen*, 9 IBLA 247, 262 (1973)). Evidence sufficient to "justify further exploration... is not synonymous with evidence of mineralization" constituting a valuable discovery. *United States v. Blue Bell Gold Mining Co.*, 17 IBLA 182, 184 (1974). Given the government's prima facie showing,⁸ HMI's burden was to prove a valuable discovery by a preponderance of the evidence.

⁷ HMI's first and second grounds for appeal misrepresent the preponderance of the evidence standard and its relationship to the United States' prima facie case. Despite HMI's repeated references to a "weak" or "extremely weak" prima facie case (Dkt. Nos. 1, 26), once such a case is established, as it was here, "[t]he claimant bears the ultimate burden of persuasion and must produce evidence to rebut the government's case and establish the validity of the mining claim." *Freeman v. United States Dep't of the Interior*, 37 F. Supp. 3d 313, 322 (D.D.C. 2014). The government does not bear the burden to rebut the evidence advanced by the claimant, and an ALJ in evaluating the evidence may appropriately conclude that such evidence is not of sufficient weight, credibility, or probative value to demonstrate a valuable discovery.

⁸ In its appeal to the IBLA, HMI did not challenge the ALJ's finding that the United States had presented a prima facie case. See *United States v. HMI Lenders, L.C.* 179 IBLA 117, 118, n.2 (2010).

The question whether a discovery is valuable often will turn on the presence of minerals lying below the surface of a claim. In many cases, direct evidence sufficient on its own to prove the value of the deposit may not be available. Geologic inference provides a recognized method for demonstrating the quality and quantity of unexposed subsurface mineralization. *See United States v. HMI Lenders*, 179 IBLA 117, 127 (2010). The inference “is a projection regarding what is reasonably likely to be found, but which has not yet been uncovered.” *United States v. Miller*, 165 IBLA 342, 356 (2005). Where geologic inference is applied, “information from one area is used to determine the reasonable likelihood of the persistence of similar mineralization in areas other than that actually tested or exposed.” *Del Webb Conservation Holding Corp. v. Tolman*, 44 F. Supp. 2d 1105, 1110 (D. Nev. 1999). A claimant may rely on geologic inferences as circumstantial evidence in support of a claimed discovery. *E.g., Hjelvik v. Babbitt*, 198 F.3d 1072, 1075 (9th Cir. 1999) (“Where the physical presence of a mineral deposit on a claim has been established, proof that minerals exist on the claims sufficient to justify discovery may be evidenced by geological inferences.”); *see Del Webb*, 44 F. Supp. 2d at 1110.

Given the extent of the direct evidence collected from Claims 4-8 in the instant case, ALJ Sweitzer correctly observed that HMI’s ability to establish a discovery on those claims depends integrally on geologic inference. R. at 152 (“Because sampling data collected from claim numbers 4 through 8 cannot independently establish either quantity or quality, HMI relies to a significant extent on the doctrine of geological inference to project the volume and grade of mineralization beneath the disputed claims.”).

Nonetheless, geologic inference cannot, standing alone, provide a basis for a valuable discovery. *Del Webb*, 44 F. Supp. 2d at 1110 (noting that the method “alone can never be used to establish the mineral deposit’s existence”); *United States v. Memmott*, 132 IBLA 283, 288

(1995) (“the law does not permit such an inference to be substituted for a showing there is a valuable mineral deposit on the land in question”); *see also Henault Mining Co. v. Tysk*, 419 F.2d 766, 770 (9th Cir. 1969). Further, because geologic inference by its nature relies on some level of speculation about the extent and value of unobserved minerals at depth, there are strict requirements for its application.⁹

Like all valuable mineral discoveries, a claim depending upon geologic inference requires a mineral exposure somewhere within its boundaries. *United States v. Pass Minerals, Inc.*, 168 IBLA 115, 122 (2006). This exposure must demonstrate “high and relatively consistent values” of mineralization. *United States v. Feezor (Feezor I)*, 74 IBLA 56, 79 (1983). Those values then provide a ceiling, rather than a floor, for further projections; geologic inference “may not be used to establish that gold values at depth are higher than those reflected in surface sampling.” *United States v. Miller*, 165 IBLA 342, 356 (2005).

Following the ALJ and the IBLA, the court assumes that HMI has met the threshold requirement of demonstrating an exposure on all seven contested claims. *See HMI Lenders*, 179 IBLA at 125 (noting that the ALJ gave the “benefit of the doubt that a physical exposure existed pre-withdrawal” on Claims 4-8); R, at 173-74 (finding that HMI had demonstrated an exposure on Claims 34 and 35). Having made this finding, “it is not necessary that the vein be exposed at depth, by drilling or other means, in order reasonably to conclude that mineral values disclosed extend below the surface, or that a valuable mineral deposit actually exists at depth.” *Miller*, 165 IBLA at 355-56. Such a conclusion, however, requires a reasoned basis for either a vertical inference downward, or, if the vein itself is exposed, a lateral inference from adjacent terrain.

⁹ HMI, the ALJ, and the IBLA have shown consistent agreement on these requirements. Dkt. 26., pp. 19, 35; R. at 157; *HMI Lenders*, 179 IBLA at 127.

HMI argues that its discovery on Claims 4-8 “consists of a four-to-five-foot-wide subsurface vein which down-dips at an average angle of 45° from the main Telegraph fault . . . that extends beneath the unpatented claims to a depth of 1,500 feet with an average grade of 0.40 ounces of gold per ton.” R. at 145. For Claims 34 and 35, which lie west of the other contiguous patented and unpatented claims, HMI submits “that vein material outcrops and has its apex on the boundary” of Claims 34 and 35, and “may intersect the main Telegraph vein at depth.” R. at 145. The ALJ and the IBLA alike concluded that HMI had not met the burden necessary to allow this inference, having failed to show either (1) consistency in the grade of gold along the main vein or (2) any relationship between average gold values from the patented claims and the actual gold values discovered at depth in the unpatented claims. *HMI Lenders*, 179 IBLA at 125; R. at 168.

On review, the court finds substantial evidence supports the conclusion that HMI failed to satisfy the standards for applying geologic inference to prove a discovery on the unpatented claims. In the case of Claims 4-8, HMI both failed to demonstrate high and consistent values of mineralization and improperly attempted to infer higher values at depth than those proven through sampling of both the patented and unpatented claims. For Claims 34 and 35, HMI provided no competent evidence to demonstrate the relevance of the Telegraph vein to the deposits on those Claims.

C. Claims 4-8

1. High and Consistent Mineralization in the Telegraph Vein

HMI argues that the agency erred in concluding that HMI had failed to supply sufficient evidence to meet the standards for applying geologic inference to reliably predict the quality and quantity of valuable minerals below the surface of the contested claims. HMI asserts that the evidence it presented at the hearing demonstrated high and consistent mineralization in sufficient quantities on the patented claims to allow for inferring these values beneath the unpatented claims, proving a valuable discovery. (Dkt. 26, pp. 16-38.) Like its arguments before the ALJ and the IBLA, HMI relies principally on the thesis and modeling of its expert witness, Mr. Lange.

On appeal, HMI argues that the ALJ and the IBLA mischaracterized Mr. Lange's conclusions when they cited his work for the idea that mineralization within the Telegraph vein was "spotty and erratic." (Dkt. 26, pp. 15-19.) HMI argues Mr. Lange's conclusion referred only to Telegraph-area mineralization generally, while supporting the idea that, in the main vein, "mineralization was high and consistent." *Id.* at 16. HMI contends that Mr. Lange's model provided a sufficient basis for finding that the posited, unobserved mineral deposits below the unpatented claims, because they are within the Telegraph vein, can be assumed to be of a high and consistent grade.

HMI's arguments are unconvincing, especially in light of Mr. Lange's own conclusions. Mr. Lange's analysis of Telegraph mineralization proposed six separate stages. Along the Telegraph vein, specifically, Mr. Lange concluded that most of the gold was deposited during stages III, IV, and V. R. at 158. These stages contain significant differences in the pattern of their associated gold deposits. The result is that even within the Telegraph vein, there is

inconsistent mineralization along two axes. Laterally, the predominating material, and even the proportions of gold deposits from the three stages, differs depending upon the location along the length of the Telegraph vein. *Id.* Vertically, material from the three stages is found at different depths, varying “depending upon the stage and temperature condition at which mineralization formed.” *Id.* Lange’s model expects Stage III material at present-day levels between 200 and 1500 feet beneath the surface; Stage IV material from just below the surface down to 1200 feet; and Stage V materials near to the present-day surface level. *Id.* at 158-59. Based on these significant variations, the ALJ reasonably concluded that Mr. Lange’s modeling, while probative, “does not conclusively establish the depth of the [Telegraph] vein at any particular point along its strike length.” *Id.* at 159.

Thus, whether or not Mr. Lange’s reference to “spotty and erratic” mineralization describes the Telegraph vein specifically, Mr. Lange’s model itself demonstrates that the depth and composition of the vein varies along its length. Even assuming the vein extends underneath the unpatented claims, there is no reliable basis for evaluating the character of the mineralization. Though HMI may take issue with the specific language quoted to support the point, the basic conclusion drawn by the ALJ and the IBLA is both sound and in keeping with the implications of Mr. Lange’s own model. And as the ALJ’s opinion correctly emphasizes, this uncertainty is highly significant “[i]n the absence of any corroborating subsurface data” from within the disputed claims themselves. *R.* at 162.

2. High and Consistent Mineralization within the Unpatented Claims

HMI has consistently relied on the patented claims as the lynchpin of its argument because of the limited information available about mineralization within the disputed claims themselves. The ALJ concluded, and the IBLA affirmed, that HMI had “failed to show... any

relationship between average gold values on the patented claims and the actual gold values encountered at depth on the unpatented claims.” R. at 168; *see HMI Lenders*, 179 IBLA at 125. Perhaps recognizing this, HMI has done its best to direct attention away from the minimal data available on the unpatented claims. *See HMI Lenders*, 179 IBLA at 128-129 (noting that HMI in its briefing “spends an extraordinary amount of [t]ime arguing the existence of a valuable deposit on the *patented* claims,” an observation equally applicable to its arguments before this court); *see* Dkt. 26, 32, *passim*.

In fact, HMI has conceded that the data available from the unpatented claims is important only insofar as it demonstrates that the Telegraph vein has been exposed, arguing to the IBLA that the “only relevance to the surface of these claims is that veinlets emanating from the main Telegraph vein were discovered on the surface of each of the claims therefore constituting the physical exposure of the vein on each claim.” R. at 207. HMI theorizes that the veinlets establish the existence of the vein within the deposit. In HMI’s view, this allows a lateral inference: established mineralization of the vein beneath the surface of the patented claims can be extended beneath the surface of the unpatented claims, proving a valuable discovery.

HMI’s theory depends on the relationship of the exposure to the posited unexposed mineral deposit. Under these circumstances, a valid geologic inference depends on some indication that the available direct evidence bears a meaningful relationship to the mineralization expected at depth. *See United States v. Miller*, 165 IBLA 342, 355-56 (2005) (stating that geologic inference projects only what is “reasonably likely” to be found elsewhere within the claim). Here, the relationship is not established because HMI’s theory rests on an unsupported conclusion about the nature of the exposed veinlets.

Again, in accord with the IBLA, the court assumes that HMI has met the threshold requirement of a surface exposure on the unpatented claims. Going further than this finding, HMI has consistently advanced its position that surface mineralization within Claims 4-8 “were the physical disclosure of the main vein on each claim,” directing attention not to the evident value of the exposed minerals but to those expected at depth. *E.g.*, Dkt. 32, pp. 13-14. HMI does not appear to provide any argument in support of this claim. Both in its appeal to the IBLA and in its present petition, HMI simply assumes that the minerals found at the surface of Claims 4-8 were part of the main Telegraph vein. At no point, however, has a finding been made on the record that the surface minerals of Claims 4-8 establish an exposure of the Telegraph vein.

The IBLA held in its decision that Judge Sweitzer “did not determine that the veinlets were interconnected with the Telegraph vein,” contrary to HMI’s representations. *HMI Lenders*, 179 IBLA at 125, n.15. Independent review of the ALJ’s Decision supports this conclusion. Nowhere in its appeal does HMI provide a substantive basis to challenge that conclusion; HMI instead proceeds as if the IBLA did not make this finding, much as it offered to the IBLA an inaccurate characterization of Judge Sweitzer’s opinion in the first instance. *E.g.*, Dkt. 26, p. 1 (stating in conclusory fashion that “Judge Sweitzer found that exposed surface veinlets constituted exposures of the main vein on the contested claims, which established the main vein underlay the claims.”); p. 22 (stating that “veinlets on each of the claims evidenced a discovery of the main vein underlying these claims which meets the legal requirement of discovery.”).

On this point, HMI misreads the ALJ’s opinion. The limited extent of Judge Sweitzer’s finding is clear:

veinlets, or stringers, appearing on the surface likely formed as part of the same epithermal process that formed the main Telegraph vein. As such, for the purposes of this Decision, it will be assumed that the pre-withdrawal surface evidence of gold

mineralization on claim numbers 5, 7, and 8, though slight, meets the threshold prerequisite of a physical exposure on each claim. R. at 156.

In other words, Judge Sweitzer found only that one requirement necessary for application of geologic inference had been met: that a physical exposure had been demonstrated. A mineral deposit that meets the threshold requirement of physical exposure does not necessarily need to be “valuable,” as the ALJ specifically noted. R. at 155; *United States v. Feezor (Feezor I)*, 74 IBLA 56, 75 (1983) (noting the “key distinction” between a mineral deposit and a “valuable mineral deposit,” and holding that “geologic inference may not be used to establish the existence of a valuable mineral deposit where no mineral deposit has been exposed within the claim.”). Judge Sweitzer does not state that any surface veinlets are part of the main Telegraph vein; at most, he grants that they may have formed as part of the same geologic process. Indeed, despite HMI’s repeated bare assertion, Judge Sweitzer’s finding accords with HMI’s own data and argumentation, which depends on the vein existing at considerable depth.

The Government correctly argues that, absent its bare and unsupported assumption about findings made by the ALJ, HMI “has never found the Patented Claims’ vein on Claims 4-8.”¹⁰ Dkt. 30, p. 39. The requirement of a discovery within the claim is directly embodied in the General Mining Law. 30 U.S.C. § 23 (“no location of a mining claim shall be made until the discovery of the vein or lode *within the limits of the claim located.*”) (emphasis added).

It is on this hinge that HMI’s case depends. *See* Dkt. 32, pp. 13-14 (stating that “the existence of the veinlets on claims 4-8 were the physical disclosure of the main vein on each claim” and that this exposure, in combination with evidence from the main vein, “constituted the discovery.”). If the surface and minimal drilling of the unpatented claims directly supported its theorized vein extension, then HMI potentially could support its mineralization through lateral

¹⁰ HMI does not persuasively contest this point in its reply memorandum. *See* Dkt. 32, pp. 7, 17.

geologic inferences from the patented claims. HMI argues that an inference “could project the vein to adjoining claims if there was a physical exposure on the adjoining claims,” that “there was physical exposure of the main Telegraph vein on the unpatented claims,” and that an inference was therefore “proper.” (Dkt. 32, p. 21). But though there is an exposure on those claims, there has not been a finding that it is an exposure *of the main vein*. Surface and exposed veinlets, and what minimal drilling has occurred on the claims, do not provide any direct evidence of the Telegraph vein mineralization within the unpatented claims. *See Ernest K. Lehmann & Associates of Montana, Inc. v. Salazar*, 602 F. Supp. 2d 146, 157 (D.D.C. 2009) *aff’d*, 377 F. App’x 28 (D.C. Cir. 2010).

Where “evidence shows that results obtained by surface sampling are unreliable as a basis upon which to predicate estimates of a value at depth, such samples cannot serve as a factual predicate for inferring an extension beyond the exposed area.” *Id.*; *see Feezor I*, 74 IBLA at 77–79 (holding that “mere exposure of isolated mineralization in a vein structure, which mineralization is not, itself, the mineral deposit on which the claim’s validity is predicated, affords an inadequate factual basis for the utilization of geologic inference”). Therefore, HMI’s proposed lateral inference is not available. R. at 209. As the IBLA has observed, “to the extent that continuity of values along the surface is disclaimed, it is difficult to ascertain a basis for the assumed continuity of values underneath the surface. Certainly no general principle of lateral continuity would admit of one while denying the other.” *United States v. Feezor (Feezor II)*, 130 IBLA 146, 203-04 (1994) (further noting that where there is demonstrable horizontal continuity of values in samples taken closer to the surface than those minerals expected at depth, “there is no reason to assume vertical continuity” when projecting downward).

On their own, the veinlets within Claims 4-8 are not indicative of the presence or expected mineralization of the main vein. As the IBLA observed, “assuming, *arguendo*, that a valuable deposit still exists on the patented claims, the question is whether HMI has shown by a preponderance of the evidence that a valuable deposit extends under the unpatented and disputed claims.” *HMI Lenders*, 179 IBLA at 129. HMI has not, and the court declines to adopt a conclusory finding the ALJ did not make as a basis for error. Absent this finding, most of HMI’s objections are irrelevant.

The ALJ also concluded that data available for the unpatented claims did not provide evidence of the Telegraph vein and its associated mineralization levels. On this point, HMI has offered no convincing data, and the court finds no error. “[R]elatively consistent values observed in surface exposures of a vein may be reasonably projected throughout the inferred depth of the vein.” *United States v. Collord*, 128 IBLA, 266, 276 (1994). Setting aside that the surface does not demonstrate continuity with the vein, HMI has conceded that existing surface mineralization is minimal. *See* R. at 147; *see also* R. at 209. Outside of this, only three drill holes below the surface are available on the record, one each within Claims 4-6. Claim 4, at its highest mineralization, shows concentrations of .046 ounces of gold per ton, at a depth of 367 to 371 feet. R. at 148. Even combined, dubiously, with material at the bottom of the Claim 4 drill well, mineralization was found at a maximum of .216 ounces per ton. Claim 5, at a depth of 378 feet, shows gold at .322 ounces per ton, though based on a drill hole made after withdrawal. R. at 149-50. Finally, within Claim 6, a drill hole shows mineralization at a depth of 54 feet at .11 ounces of gold per ton. R. at 151.

HMI posited a mineralized deposit beneath the surface of the unpatented claims at a concentration of .48 ounces per ton, adjusted downward to .40 ounces per ton for dilution. (Dkt.

26, p. v.) Nowhere has HMI actually discovered a level of mineralization within the unpatented claims corresponding to this level. Given the variations in depth and mineralization under HMI's preferred modeling, this is a paucity of data by which to speculate as to the subsurface mineralization. HMI has not shown that it has encountered the theorized levels of Telegraph vein mineralization within those claims, and absent this demonstration, it cannot be said to have discovered the vein. Contrary to HMI's representations, neither the ALJ nor the IBLA found differently. Without this finding, an inference "may not be used to establish that gold values at depth are higher than those reflected in surface sampling." *United States v. Miller*, 165 IBLA 342, 356 (2005).

HMI contests that this application of geologic inference is "narrow." (Dkt. 26, p. 35.) To the extent that it is, the ALJ and the IBLA have honored the limits of the geologic inference rule. *See Henault Min. Co. v. Tysk*, 419 F.2d 766, 768 (9th Cir. 1969) (holding that where no "vein or lode containing valuable mineral deposits has yet been discovered," other exposed mineralization "simply constitute[s] an indication that a vein or lode, yet unexposed, may exist at depth."). In the present case, a "reasonable prediction that valuable minerals exist at depth will not suffice as a 'discovery' where the existence of these minerals has not been physically established." *Id.* As the IBLA stated, it "is theoretically possible... that HMI's geologic model is basically accurate." *HMI Lenders*, 179 IBLA at 130. But the court agrees with the IBLA that "the record does not contain facts or evidence to show that it is." *Id.* And though valuable mineralization "may in fact extend the length of the vein," including beneath the unpatented claims, "in the absence of any subsurface sampling" indicating the presence of those valuable ore bodies, the IBLA has stated that it will "project them to depth only to the extent that they can be observed on the surface." *United States v. Collord*, 128 IBLA, 266, 275-76 (1994). In line with the IBLA, the

court concludes that to “do otherwise would be to substitute sheer speculation for reasonable geologic inference.” *Id.*

Accordingly, substantial evidence supports the agency’s finding that HMI cannot use “[g]eologic inference alone... to establish that gold values at depth [were] higher than those reflected in surface sampling.” *HMI Lenders*, 179 IBLA at 127. The mineral examiner found no economically viable mineralization through surface sampling. R. 136–38, 1024–25, 1482–87. The limited subsurface sampling on the unpatented claims showed values at depth far lower than those HMI sought to prove by geologic inference. *See id.* at 167, 1681. This adequately supports the agency’s finding that HMI was attempting to improperly use geologic inference to prove higher values at depth than those demonstrated from drilling and surface sampling, and its conclusion that HMI could not in this way prove a valuable discovery.

3. Evaluation of Evidence Absent Geologic Inference

Unable to demonstrate that reliable estimates can be made about the specific character or depth of the posited extension, and with the patented claims themselves providing no useful evidence of high and consistent mineralization, HMI falls back as a last resort on area-wide averaging and sampling. This argument also fails.

As the ALJ correctly noted, HMI relies on area-wide data because it has “found no apparent correlation between the surface assay results on the disputed claims and the values projected to exist at depth beneath those claims.” R. at 163. This fallback position, however, goes beyond any reasonable geologic inference to entirely speculative geologic projection. Clearly, “mere proximity to the three patented claims” does not provide the “sound geologic evidence” necessary for “averaging the assay values from the three patented claims and then

projecting those average assay values to significant depths below each of the disputed claims.”

R. at 162-63; *see HMI Lenders*, 179 IBLA at 126.

The ALJ’s finding that HMI had not met its burden of proving high and consistent values is supported by substantial evidence. In reaching its conclusion, the agency carefully reviewed all the evidence HMI presented. *See* R. 162–68. The ALJ found that HMI’s use of an area wide average gold value to predict the average value for mineralization beneath the unpatented claims was not supported by the data submitted to the agency. *Id.* This conclusion is reasonable. For example, the ALJ noted that evidence in the record showed inconsistent values on both the patented and unpatented claims as the depth of sampling increased. *Id.* at 166; *compare id.* at 1908–26, 2050–61, *with id.* at 1681, 1945–46, 1952–57, 2562–63, 2951–54. Where minimal sampling occurred within the unpatented claims, there is hardly a basis to assume a continuity of those values with HMI’s optimistic assessments of the mineralization across the entire vein. In addition, Mr. Lange’s thesis described multiple stages of mineralization in the area—with varying consistencies of mineralization. *Id.* at 163–64, 1880–81.

HMI cannot demonstrate any legally sufficient reason to apply geologic inference to support its claims of a mineral deposit at depth beneath unpatented claims 4-8. Absent this inference, HMI’s claims necessarily fail. Repetition of the ALJ’s persuasive economic analysis on this point is unnecessary. R. at 168-70. HMI itself has argued to the IBLA that its “claim of a discovery of a valuable mineral deposit on each unpatented claims [sic] was totally dependent on establishing the main vein as it dipped under claims 4, 5, 6, 7, 8, and its Gold Dyke branch outcropping on claims 34 and 35 as the valuable mineral deposit that would support the required discovery on these claims.” R. at 209. The court agrees.

D. Claims 34 and 35

Geologic inference is likewise unavailable for claims 34 and 35. The ALJ found that HMI “failed to show that any reasonable geologic inferences could be drawn from the main Telegraph vein, which lies a half mile or more from the Gold Dyke area, to support [a] model projecting a resource depth of 1,500 feet.” R. at 174. The court finds no error in this conclusion. Mr. Lange’s testimony established that the mineralization evident in Claims 34 and 35 occurred as part of the same process that formed the Telegraph vein, but this shared process of formation does not indicate a direct connection. Testimony from Mr. Weston introduced informally and with little evident data underpinning it is, as the ALJ concluded, merely “hopeful speculation.” *Id.* On appeal, HMI provides no more than conclusory protests on this point. (Dkt. 26, pp. 31-34.)

Unlike for Claims 4-8, however, HMI does not appear to concede that a failure to apply geologic inferences necessarily renders Claims 34 and 35 economically unviable. The ALJ had concluded that despite demonstrable mineralization on these claims, even absent any inferences based on the Telegraph vein, the claims were not suitable for economic development under the prudent man test.

In its review, the IBLA barely considered the economic calculations underlying this conclusion, perhaps because HMI did not squarely raise the issue in its administrative appeal. *See HMI Lenders*, 179 IBLA 117, 124 (citing to the relevant reasoning from the ALJ, but not engaging in independent analysis of the calculations); R. at 1-7 (citing four grounds for appeal, none of which involved the economic viability of Claims 34 and 35 absent geologic inference); R. at 337-40 (disputing the ALJ’s finding as to the isolated economic viability of open pit mining on Claims 34 and 35, but appearing to argue based upon area-wide inferences earlier rejected).

The ALJ's analysis, however, was thorough, and rested on reasonable economic calculations. R. at 74-75. HMI does not now raise any compelling arguments to question the initial determination of the ALJ regarding economic viability. As with Claims 4-8, HMI's core argument to the IBLA for a valuable discovery on Claims 34 and 35 rested on geologic inference. On appeal, HMI's petition intertwines resource models premised upon a connection to the Telegraph vein at depth and those based solely on open-pit mining of already exposed minerals. (Dkt. 26, pp. 31-34). Looking solely at that argument relevant to open-pit mining, to the extent the court can extract it from HMI's presentation, the court sees no reason to question the finding that a prudent man would not develop Claims 34 and 35, a conclusion supported by substantial evidence on the record.

E. Substantial Evidence on the Record

An agency "acts arbitrarily and capriciously when its actions depart from well established agency precedent without a reasoned explanation." *Hoyle v. Babbitt*, 129 F.3d 1377, 1384 (10th Cir. 1997). Here, the IBLA acted well within its prior precedents. If HMI's claims are to be established, they must be made out "by the actual evidence of record and not by advertence to general principles of lateral continuity to eliminate any evidentiary lacunae." *United States v. Feezor*, 130 IBLA 146, 204 (1994). The court cannot move to the application of lateral inferences from patented claims without a far more substantial case within the unpatented claims themselves. Comparison of HMI's arguments for applying geologic inference with those of a successful claimant make clear the paucity of evidence it provides in support of this method. *See, e.g., Wilderness Soc'y v. Dombeck*, 168 F.3d 367, 376 (9th Cir. 1999) (affirming use of geologic inference based on an extensive record, including "[m]ineralization exposed and tested

prior to the withdrawal date [that] was continuous over a significant distance... and contained a high grade mineralization”).

Finally, in making these findings the ALJ did not, as HMI argues, act as a silent witness against HMI’s experts. (Dkt. 26, pp. 37-38). Rather, HMI simply failed to carry its burden of proof on the issue of geologic inference. The ALJ considered the entirety of the record including the testimony of HMI’s experts, and the data on which those experts relied, and reasonably concluded that HMI’s “evidence of mineralization [was] inadequate to model any additional resources” beneath the contested claims. *HMI Lenders*, 179 IBLA at 124. Even assuming the evidence HMI puts forward provided sufficient evidence to support a finding in its favor, which it demonstrably has not, it is not within the authority of this court to “substitute [its] own judgment for that of the agency.” *Hoyle v. Babbitt*, 129 F.3d 1377, 1383 (10th Cir. 1997).

HMI likewise offers no evidence that the agency failed to consider “all relevant factors” or that its decision was not “supported by the facts in the record.” *Pennaco Energy, Inc. v. U.S. Dep’t of Interior*, 377 F.3d 1147, 1156 (10th Cir. 2004). On review, the court finds careful consideration by both the ALJ and the IBLA to the record, together with reasonable conclusions amply supported by the available information. HMI’s insistence that this court re-weigh the evidence presented to the agency does not advance its burden to show that the agency made a “clear error of judgment.” *Id.*

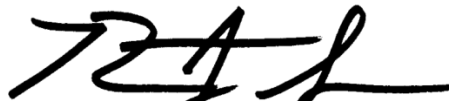
Upon review of the record, the agency’s decision finding HMI’s claims void for lack of discovery is supported by substantial evidence. It is likewise neither arbitrary nor capricious, nor contrary to law. 5 U.S.C. § 706(2)(A). No basis exists for overturning the decision of the IBLA.

CONCLUSION

For the reasons stated, the court concludes that the IBLA's determination is in accordance with law and supported by substantial evidence. The court therefore **DENIES** HMI's petition.

SO ORDERED this 28th day of September, 2015.

BY THE COURT:

A handwritten signature in black ink, appearing to read 'R. J. Shelby', written over a horizontal line.

ROBERT J. SHELBY
United States District Judge